fertilised, and experiments of a similar nature carried out on wild plants *in situ* in June, 1903, and also June, 1904.

In no case could I get a flower to fertilise itself, though crossed flowers produced abundant seed under both conditions. A correspondent in Edinburgh, experimenting upon primroses for quite another purpose, confirms my experience in this matter.

The author of the above-mentioned work has in my opinion fallen into the common error of deducing a function from a structure without recourse to the experimental method, a mode of procedure which has, I believe, led him into grave error. E. A. BUNYARD.

The Bungalow, Allington, Maidstone, August 8.

An Optical Phenomenon.

MR. HILLIG'S letter in NATURE of August 18 (p. 366) reminds me of a somewhat similar phenomenon which I observed last May when using a rotating cubical mirror and sensitive flame.

When the mirror was rotated by hand at moderate speed the upper and lower edges of the band of light seen in the mirror presented exactly the appearance of a faint spectrum, red being outside and pale green and blue inside. The central portion of the band was colourless.

The appearance was most distinct when the flame was influenced by a sound.

I repeated the experiment to-day with the same result.

GEORGE W. WALKER.

Physical Laboratory, The University, Glasgow, August 19.

Traction of Carriages.

IN further answer to your correspondent, p. 270, in passing along a road the wheels of a carriage encounter many small obstacles and inequalities over which they have to rise. In doing so the centre of gravity of the load (which is always higher than the axles) is raised to a greater vertical height when the axles are far apart than when they are close together. The work done in the former case is, therefore, greater than in the latter, by an amount the magnitude of which is proportional to the difference between the versed sines of the angles through which the carriage is tilted in each case respectively. The same argument applies in regard to lateral oscillations of the centre of gravity with the corollary that the narrower the gauge the more easily is the carriage propelled or drawn.

There may also be some question as to the influence of the different rates of retardation and acceleration of the centre of gravity in each case.

Cardiff, August 1. W. GALLOWAY.

Indian Rhynchota.

IN the issue of NATURE of August 11 (p. 341) there appeared a notice of my second volume on "Indian Rhynchota" (Blanford series), in which I read, "the two last families of the Gymnocerata (Hebridæ and Hydrometridæ) are left over to be included with the Cryptocerata" in the third volume.

This is an error. They have already appeared in their proper location, vol. ii. pp. 167 and 168–192.

W. L. DISTANT.

Steine House, Selhurst Road, South Norwood, S.E.

[The reviewer regrets the oversight which Mr. Distant has pointed out.—ED.]

The Earliest Mention of Hydrodictyon.

TWAN CHING-SHIH (*ob.* 863), in his "Yû-yang-tsah-tsu," Japanese edition, 1697, tom. xix., fol. 12, *a*, writes:—

"The *Shwui-mung-tsiau* (literally, Water-net-alga) grew in Kun-ming-chi [an artificial lake formed by the order] of the Emperor Wu-ti of the Han dynasty [reigned 140–87 B.C.]. Its branches, spreading sidewise, now come out of water slantly. It was eight to nine feet long and so closely resembling the meshes of a net that the ducks could not come out of it when got therein. Hence the name."

This is likely to be an exaggerated Chinese account of the now well known water-net (*Hydrodictyon utriculatum*, Roth.). In this part, when a paddy-field has its water drained off, we meet frequently this alga, "spreading sidewise, now coming out of the remaining water slantly," although such a gigantic dimension as "eight to nine feet" is totally out of the question. Perhaps this is the earliest record of the alga. KUMAGUSU MINAKATA.

Mount Nachi, Kii, Japan.

MARCONI WEATHER TELEGRAMS.

METEOROLOGISTS have for a long time felt that they have practically come to the limit of their resources in the matter of weather forecasting, so far as the weather changes in the British Isles are concerned, except, perhaps, if finance allowed that telegrams might be received at a later hour than 6 p.m. This later information might avoid the possibility of a storm system advancing towards our western coasts slipping in unobserved between the present hours of observation, 6 p.m. and 8 a.m., without proper intimation of its approach by the fall of the barometer and the backing of the wind being duly notified. Occasionally some of our worst storms spread over us in this way, and the forecaster, who has been unable to foresee the incoming disturbance by aid of the 6 p.m. weather telegrams, finds to his dismay when viewing the next morning's weather information that the full violence of the storm is upon us, for which no storm warnings have been issued. In this way, from time to time, the central area of an important storm is well over the United Kingdom before our Weather Office is aware of its existence.

Wireless telegraphy promises to supply the missing link in the connection of our shore weather system with that over the ocean to the westward of us, and the present praiseworthy effort on the part of the *Daily Telegraph* seems likely to prove, even now with the restricted powers of the Marconi system, that useful information can be obtained. The messages at present are transmitted only about 100 miles from land, but the scheme which has been most ably inaugurated has provided that, in addition to the latest weather report when approaching our shores, there should also be a report of the weather experienced some time previous, so that it is not merely an isolated observation with which we have to deal, but a fair knowledge of the weather from about mid-Atlantic is secured. This information is at times supplied by two or three vessels, so that synchronous observations are obtainable, and it will easily be understood that with further development of the system an approximate synoptic and synchronous map of the Atlantic may be produced. The storm areas very frequently follow a course almost due east when approaching our islands, but often when in fair proximity to our coasts they trend to the north-east, and any help in enabling a true estimate to be formed of the storm's path will be of the greatest possible advantage to the forecaster. Information with settled conditions will be of great value, since it is expected that forecasts should show with some certainty the advent or continuance of settled weather. When an area of high barometer readings is situated to the westward of our shores, and is willing to give way, it affords an indication of the early approach of storm systems, with disturbed weather, from the open ocean, while if the anticyclone maintains its ground the approaching disturbance will be fended off and made to follow a course more to the north-east, and may be taken altogether beyond the limits of the United Kingdom.

For some time past the Meteorological Office has had in hand the charting of the weather over the North

Atlantic, for which purpose it obtains observations of wind, weather, barometer, and temperature of air and sea from observers in the Mercantile Marine who are willing to assist in the advancement of our knowledge of the weather in this way, and a daily chart is prepared giving a picture of the weather over the Atlantic and for the adjacent continents of Europe and America for 8 o'clock each morning. A study of these is helpful to the furtherance of our better understanding of meteorology and its complicated problems, but necessarily these charts picture only what is past, although they afford an explanation of success or failure in forecasting, and often show why an unexpected and altogether unlooked for change of weather has occurred. These charts are prepared as closely as possible to date of occurrence. When the Meteorological Office has the advantage of receiving messages by the wireless telegraphy, both from outgoing and incoming Atlantic liners, they will unmistakably possess a power which has long been known to be wanting. The *Daily Telegraph* has taken the initiative, and it is to be hoped that the arrangements which the Meteorological Office has already been endeavouring to make with Lloyd's for fuller information will shortly meet with that success which it deserves, for the advancement of science and for the public benefit.

With the further development of Marconi's system there seems every reason to hope that we in England may be placed much on the same footing as Denmark, for example, is now, in full possession of the knowledge of what is going on for several hundred miles to the westward of the base of operations, to the immense gain of the forecaster for the country concerned. Knowing what is going on over the Atlantic to the westward of us would not only secure greater accuracy of forecast, but the time limit could probably be extended from twenty-four hours, as at present, to, say, forty-eight hours at least.

PROF. J. D. EVERETT, F.R.S.

THE death of Prof. Everett has removed a familiar figure from the ranks of English physicists. The news of his death came as a shock to his many friends and others acquainted with his great vitality and his intellectual activity, which seemed to remain quite unimpaired by advancing years. Some seven years ago he retired from teaching work in Queen's College, Belfast, where, for upwards of thirty years, he had occupied the chair of natural philosophy. Since that time he resided in London, where he took an active part in the proceedings of scientific societies, specially of the Physical Society, of which he was a vice-president.

Dr. Everett's name has been familiar to many generations of students of physics through his admirable translation of Deschanel's treatise, which has long served as a standard text-book. Many editions of this were called for; and as each fresh edition was carefully brought up to date by additions and alterations, the book became ultimately almost entirely a new work. Another very important service to physical science was rendered by the publication of Prof. Everett's book on the C.G.S. system of units. This very useful compendium made its first appearance at the time when the question of fixing the practical electrical units was being discussed, and proved of material service in that connection. It gives not only clear and precise definitions of fundamental quantities, but also numerical data carefully selected and compiled.

Dr. Everett's earliest original work consisted of an experimental determination of the elastic constants of certain solids. Subsequently he confined himself to work on his text-books and to theoretical investigations. His published papers, which appeared for the most part in the *Philosophical Magazine* or in the pages of this Journal, show by their subjects the wide range of his interests. Thus recent papers treat of the theory of combination tones, Hering's colour-theory, dynamical illustrations of optics, the theory of rent, the properties of certain linkages, and the mathematics of bees' cells. His last paper, elucidating a point in connection with Osborne Reynolds's theory of the universe, appeared only a month or so ago. He served for many years as recorder of the British Association Committee for Investigation of Underground Temperatures, and did much valuable work in drawing up the annual reports.

Dr. Everett's energy and ingenuity found outlets also in directions not purely scientific. He was the inventor of a system of shorthand which has found many adherents. He devised an extended form of slide-rule, ingeniously arranged on sheets of cardboard. An early and enthusiastic votary of cycling, he was much interested in cycle construction, and was an active member of the Cyclists' Touring Club. A man of great kindliness and geniality, he will be missed in many circles. His pupils will remember him always with gratitude and affection.

THE BRITISH ASSOCIATION AT CAMBRIDGE.

THE meeting of the British Association at Cambridge concluded yesterday. The meeting has been in every way a success. In all the sectional sessions large attendances were secured, and the general and social meetings were all successfully carried through and greatly appreciated. In regard to numbers of members, the Cambridge meeting was the largest since the Liverpool meeting of 1896. At this meeting there were 3181 members and associates, at the meeting just concluded at Cambridge the number of members and associates was 2783. It is interesting to compare the numbers of other large meetings with the one just held. The largest number of members and associates that have attended a meeting was at Manchester in 1887, when the number was 3838. At Newcastle in 1863 there were 3335, at Liverpool in 1870 there were 2878, and at Bath in 1864 the number was 2802. These meetings are the only ones which have had a larger attendance than that at Cambridge, and it is interesting to observe that in all these cases the meeting has been in a large city where the number of resident members and associates naturally would be very much larger than in a comparatively small town such as Cambridge. Compared with recent years the numbers show a large increase. Last year in Southport 1754 attended the Association, in Belfast the year before there were 1620, and in Glasgow in 1901 there were 1912. Comparing the meeting just concluded with the three former meetings held in Cambridge we find a great increase in numbers. In 1833 there were 900 members and associates, in 1845 there were 1079, and in 1862, 1161.

The cause of the great popularity of the Cambridge meeting this year is undoubtedly to be found in the great growth and expansion in scientific work at the University during the last twenty-five years. The work done at Cambridge in the last quarter of the nineteenth century in all branches of science has made Cambridge a great centre of attraction for scientific men the world over. At this year's meeting there were present 121 foreign members. Amongst these there was a large number of physicists attracted by